

## DATA FOR MATERIAL = 62322

\*\*\*\* MAPTIS NONMETALLIC SELECTION LIST DATA FOR MTRL CODE: 62322 \*\*\*\* 15-MAY-01

MTRL CODE:

62322

USE TYPE: INSULATION FOAM FLAME

RETARDANT

DESIGNATION: SOLIMIDE\* TA-

301

COMPOSITION:

POLYIMIDE

GENERIC ID: FJCDXXXX MFG SERVICE TEMPS IN AIR - MIN: -300 f MAX: 500

f

\* SOLIMIDE IS A REGISTERED TRADEMARK OF INSPEC FOAMS

INC

SPECIFICATION: AIRBUS ATS 1000-

001

DOD-I-

24688

SVHS

541

MANUFACTURER: INSPEC

GROUP

DIVISION: INSPEC FOAM

INCORPORATED

FLAMMABILITY

DATA

										BURN			
PROP	NHB/			CUR	PCT +/	PRESS +/	SAMPLE S	CHM	SMP	THICK +/	LENGTH T	RATE K	
DFS	SUBSTR	SUBSTRATE		NR R	OXY -	psia -	TMP f	V	VOL	NR	inch -	inch B	in/sec 10
TYPE	TEST	NR											
BJP	THK	in	MATERIAL										
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01-UPW M104383-A				A	24.1	13.9			99	.5340 .02	3.10	.3131	N
NNN													
W23782-A				A	25.7 .3	14.4 .3		50	99	.2480 .01	.40		
NNN													
M102050-A				A	25.7 .3	14.4 .3			99	.7590 .04	1.30	.321	
NNN													
M102288-A				A	25.7 .3	14.4 .3	200.0		99	.7590 .04	3.00	.2804	N
NNN													
M103690-A				A	25.7 .3	14.4 .3			99	.7590 .04	2.50	.3333	N
NNN													
M103690-B				A	25.7 .3	14.4 .3			99	.7590 .04	2.80	.359	N
NNN													
W14829-A				A	25.7 .3	14.4 .3			99	1.0020 .04	2.70		
NNN													
M102051-A				A	25.7 .3	14.4 .3			99	1.9700 .08	2.30	.243	
NNN													
W14230-A				A	25.7 .3	14.4 .3			99	2.2600 .2	1.50	0	



TST	NHB	TYP	TEST	NR	T	DESCRIPTION/ REMARK
			M102254-A	A	40.0	10.2 .3 99 .7590 .04 1.80 .146 N
NNN			M102051-F	A	40.0	10.2 .3 99 1.9700 .08 2.50 .22
NNN						
01	UPW	M101878-A	R			THIS SAMPLE TESTED TO INVESTIGATE RESULTS OF DENSIFIED FOAM (3.4 PERCENT FOAM)
01	UPW		O2			MONITOR ERRATIC DUE TO POOR FLOW THROUGH TEST CELL
						THEREFORE
01	UPW					SAMPLE MEASUREMENTS NOT
						REPORTED
01	UPW	M102051-D	R			SAMPLES INVERTED FROM PREVIOUS 25.8 PERCENT BURN. UPWARD BURN TIME COULDN'T BE DISTINGUISHED FROM
						TOTAL BURN TIME SO UPWARD BURN TIME REFLECTS WHEN THE FLAME OF THE
						IGNITOR REACHES IT'S HIGHEST
						POINT.
01	UPW	M102051-E	R			SAMPLES INVERTED FROM PREVIOUS 30 PERCENT BURN. UPWARD BURN TIME COULDN'T BE DISTINGUISHED FROM
						TOTAL BURN TIME SO UPWARD BURN TIME REFLECTS WHEN THE FLAME OF THE
						IGNITOR REACHES IT'S HIGHEST
						POINT.
01	UPW	M102051-F	R			SAMPLES INVERTED FROM PREVIOUS 33 PERCENT BURN. UPWARD BURN TIME COULDN'T BE DISTINGUISHED FROM
						TOTAL BURN TIME SO UPWARD BURN TIME REFLECTS WHEN THE FLAME OF THE
						IGNITOR REACHES IT'S HIGHEST
						POINT.
01	UPW	M102254-A	R			NON-STANDARD TEST. THESE SAMPLES ARE FROM 102050 33 PERCENT TEST. EACH SAMPLE RECEIVED MINOR SMOKE
						DISCOLORATION. 1 IGNITER PER SAMPLE WITH TIMES LESS THAN 20 SECONDS.
						SAMPLES DID NOT EXHIBIT
						SMOLDERING EFFECTS. MICRO-THERMOCOUPLES
						PLACED
01	UPW					AT 3", 6" AND 9" DUE TO SAMPLE LENGTH. TEMPERATURES DID NOT INCREASE MORE THAN 3 DEGREES DURING EACH
						TEST AFTER IGNITOR EXTINGUISHED. O2 CONCENTRATION INCREASED WITHIN
						SPECIFICATIONS BY ADDING 100
						PERCENT O2 RESULTING IN ADJUSTED
						TIMES.
01	UPW					THESE TEST REFLECT 10 MINUTE HOLDING PERIODS AT VACUUM AND AGAIN AT THE
						TEST ENVIRONMENT
						CONCENTRATION AT 14.7 PSI AS OUTLINED IN SMOLDERING TEST
						INSTRUCTIONS.
01	UPW	M102254-B	R			NON-STANDARD TEST. THESE ARE SAMPLES FROM 102050 40 PERCENT TEST (CHARRED END CUT OFF). TESTS
						CONDUCTED USING 2 IGNITORS PLACED HORIZONTALLY IN A SINGLE HOLDER,
						POSITIONED CENTER MASS AT BOTTOM
						OF SAMPLE. SAMPLES RECEIVED SMALL AMOUNT
						OF
01	UPW					SMOKE DISCOLORATION. MICRO-THERMOCOUPLES PLACED AT 3, 6 AND 9 " ON EACH SAMPLE DUE TO SAMPLE LENGTH.
						SAMPLES DID NOT EXHIBIT SMOLDERING EFFECTS DURING 15-30 MINUTES OF
						MONITORING. THERMOCOUPLES VARIED
						LESS THAN 3 DEGREES AFTER
						IGNITORS
01	UPW					EXTINGUISHED. O2 CONCENTRATION INCREASED WITHIN SPECIFICATIONS BY ADDING
						100 PERCENT O2; RESULTING

IN ADJUSTED TIME. THESE TEST REFLECT 10 MINUTE HOLDING PERIODS AT VACUUM  
AND AGAIN AT THE TEST ENVIR  
CONC AT 14.7 PSIA OUTLINED IN

SMOLDERING

01 UPW TEST

INSTRUCTIONS.

01 UPW M102287-A R NON-STANDARD TEST. O2 CONCENTRATIONS ADJUSTED TO WITHIN SPECIFICATION  
AFTER FILLING WITH PRE-MIXED  
BOTTLE. SAMPLES EXPERIENCED RAPID UPWARD FLAME FLASH ON SURFACE OF SAMPLE  
TO APPROXIMATELY 6" MARK  
ON SAMPLE 1. FLASH TO APPROXIMATELY  
11"  
01 UPW MARK ON SAMPLE 2 AND TO APPROXIMATELY 9" MARK ON SAMPLE  
3.

01 UPW M102287-B R NON-STANDARD TEST. DOUBLE IGNITORS. 100 PERCENT O2 WAS ADDED TO O2  
CONCENTRATION TO BRING WITHIN  
SPECIFICATION AFTER FILLING CHAMBER WITH PRE-MIXED BOTTLE. SAMPLE CHARRED  
IN BURN AREA.

01 UPW M102287-C R NON-STANDARD TEST. DOUBLE IGNITORS. THESE SAMPLES WERE INVERTED FROM  
PREVIOUS 30 PERCENT/DOUBLE  
IGNITOR TEST. O2 CONCENTRATIONS ADJUSTED TO TEST SPECIFICATIONS. MATERIAL  
CHARRED IN BURN AREA.

01 UPW M102288-A D SOLIMIDE\* TA-301 (3/4"  
THICK)

01 UPW R MATERIAL SELF-EXTINGUISHED WHEN IGNITION SOURCE  
REMOVED.

01 UPW M102288-B D SOLIMIDE\* TA-301 (3/4" THK) O2 CONCENTRATION  
STUDY

01 UPW R MATERIAL SELF EXTINGUISHED WITH REMOVAL OF IGNITION  
SOURCE.

01 UPW M102288-C D SOLIMIDE\* TA-301 (3/4" THK) O2 CONCENTRATION  
STUDY

01 UPW R NON-STANDARD TEST. 100 PERCENT O2 ADDED TO CHAMBER TO OBTAIN PROPER TEST  
ENVIRONMENT AFTER FILLING  
WITH 30 PERCENT PREMIX O2, THEN VERIFIED WITH O2 ANALYZER PRIOR TO  
TESTING.

01 UPW MATERIAL SELF-EXTINGUISHED WITH REMOVAL OF IGNITION  
SOURCE.

01 UPW M102288-D D SOLIMIDE\* TA-301 (3/4" THK) O2 CONCENTRATIONS  
STUDY

01 UPW R NON-STANDARD TEST. 100 PERCENT O2 ADDED TO CHAMBER AFTER FILLING WITH 30  
PERCENT PREMIX O2, THEN  
VERIFIED WITH O2 ANALYZER PRIOR TO  
TESTING.

01 UPW MATERIAL SELF EXTINGUISHED UPON REMOVAL OF IGNITION  
SOURCE.

01 UPW M102288-E D SOLIMIDE\* TA-301 (3/4" THK) O2 CONCENTRATION  
STUDY

01 UPW R NON-STANDARD TEST. 100 PERCENT O2 ADDED TO CHAMBER AFTER FILLING WITH 30  
PERCENT PREMIX O2, THEN  
VERIFIED WITH O2 ANALYZER PRIOR TO  
TESTING.

01 UPW THESE ARE SAME SAMPLES TESTED AT 25.9 PERCENT O2 PREVIOUSLY, ONLY  
INVERTED FOR THE PURPOSES OF THIS  
TEST. MATERIAL SELF-EXTINGUISHED UPON REMOVAL OF IGNITION  
SOURCE.

01 UPW M102288-F D SOLIMIDE\* TA-301 (3/4" THK) O2 CONCENTRATION  
STUDY

01 UPW R NON-STANDARD TEST. 100 PERCENT O2 ADDED TO CHAMBER TO OBTAIN TEST  
ENVIRONMENT AFTER FILLING WITH 30  
PERCENT PREMIX O2, THEN VERIFIED WITH O2 ANALYZER PRIOR TO

TESTING.

01 UPW THESE SAMPLES WERE PREVIOUSLY TESTED AT 30 PERCENT O2, ONLY INVERTED FOR THE PURPOSES OF THIS TEST.

MATERIAL SELF-EXTINGUISHED WITH REMOVAL OF IGNITION SOURCE. SAMPLE 2 HAD BURNS THAT PROPAGATED UPWARD ON REAR OF SAMPLE.

01 UPW M102467-A R NON-STANDARD TEST. MATERIAL SOAKED 13.5 HOURS IN 30 PERCENT O2 PRIOR TO TESTING. THERMO PROBES PLACED ON SAMPLE AND A 20 DEGREE INCREASE IN TEMPERATURE WAS NOTED AT IGNITION. THERE WERE NO SMOLDERING EFFECTS.

01 UPW OBSERVED. THERE WAS SMALL SURFACE DISCOLORATION IN BURN AREA.

01 UPW M103689-A D TA-301 WITH 100 PERCENT O2 PRELOAD

01 UPW R SPECIAL BACKFILL STUDY. PURPOSE OF TEST IS TO DETERMINE, HOW O2 CONCENTRATIONS ARE ACHIEVED WILL AFFECT RESULTS OF FLAMMABILITY TEST.

01 UPW SAMPLE MATERIAL BURNED ONLY IN AREA WHICH CAME IN DIRECT CONTACT WITH IGNITION SOURCE.

01 UPW M103689-B D TA-301 WITH 30.5 PERCENT PREMIX PRELOAD

01 UPW R SPECIAL BACKFILL STUDY. PURPOSE OF TEST IS TO DETERMINE, HOW O2 CONCENTRATIONS ARE ACHIEVED WILL AFFECT RESULTS OF FLAMMABILITY TEST.

01 UPW SAMPLE MATERIAL BURNED ONLY IN AREA WHICH CAME IN DIRECT CONTACT WITH IGNITION SOURCE.

01 UPW M103690-A D TA-301 WITH 100 PERCENT GN2 PRELOAD

01 UPW R SPECIAL BACKFILL STUDY. PURPOSE OF TEST IS TO DETERMINE, HOW O2 CONCENTRATIONS ARE ACHIEVED WILL AFFECT RESULTS OF FLAMMABILITY TEST.

01 UPW 100 PERCENT GN2 WAS LOADED INTO TEST CHAMBER PRIOR TO 30.5 PERCENT PREMIX O2 TO OBTAIN PROPER TEST ENVIRONMENT.

01 UPW SAMPLE MATERIAL BURNED ONLY IN AREA WHICH CAME IN DIRECT CONTACT WITH IGNITION SOURCE.

01 UPW M103690-B D TA-301 WITH 30.5 PERCENT O2 PREMIX PRELOAD

01 UPW R SPECIAL BACKFILL STUDY. PURPOSE OF TEST IS TO DETERMINE, HOW O2 CONCENTRATION IS ACHIEVED WILL AFFECT RESULTS OF FLAMMABILITY TEST.

01 UPW 30.5 PERCENT PREMIX O2 WAS LOADED INTO CHAMBER PRIOR TO 100 PERCENT GN2 BEING LOADED TO OBTAIN PROPER TEST ENVIRONMENT.

01 UPW SAMPLE MATERIAL BURNED ONLY IN AREA WHICH CAME IN DIRECT CONTACT WITH IGNITION SOURCE.

01 UPW M104383-A D SOLIMIDE\* TA-301 W/FLUROELASTOMER ON 1 SIDE

01 UPW R THE IGNITION SOURCE WAS PLACED AT THE BOTTOM LEADING EDGE ON THE SIDE OF THE TEST MATERIAL COATED WITH FLUROELASTOMER.

01 UPW M104383-B D SOLIMIDE\* TA-301 W/FLUROELASTOMER ON 1

## SIDE

01 UPW R THE IGNITION SOURCE WAS PLACED AT THE BOTTOM LEADING EDGE ON THE SIDE OF  
THE TEST MATERIAL COATED

WITH

FLUOROELASTOMER.

01 UPW M104440-A D SOLIMIDE\* TA-301 WITH FLUOROELASTOMER ON 1

## SIDE

01 UPW R NO INDICATION OF ANY HEAT OR SMOLDERING UPON POST TEST EXAMINATION ON ALL  
ABOVE TEST THE IGNITION

SOURCE WAS PLACED AT THE BOTTOM CENTER OF THE TEST MATERIAL PER

INSTRUCTIONS.

01 UPW SAMPLES 1 AND 2 WERE ALLOWED TO REMAIN IN THE TEST ENVIRONMENT FOR A  
PERIOD OF 2 HOURS TO OBSERVE

ANY SMOLDERING. SAMPLE 3 WAS ALLOWED 15 HOURS TO TEST FOR ANY

SMOLDERING.

01 UPW M105855-A D COLOR:

YELLOW

01 UPW P TEST SAMPLES WERE PREPARED BY THE TEST

REQUESTER.

01 UPW M105855-B D COLOR:

YELLOW

01 UPW P TEST SAMPLES WERE PREPARED BY THE TEST

REQUESTER.

01 UPW W14829-A R UN-

8

01 U-C W22527-A R SIDE A WAS RECORDED BY CAMERA A. SIDE B WAS RECORDED BY CAMERA

B.

01 U-C THE WORST CASE IS NOTED BY CAMERA B ON SAMPLES 1 AND 2, THE WORST CASE  
FOR SAMPLE 3 WAS RECORDED BY

CAMERA

A.

01 UPW W23782-A P THICKNESS FOR SAMPLES 1, 2 AND 3 WERE 0.72, 0.71 AND 0.72 CENTIMETER,  
RESPECTIVELY.

01 UPW R SAMPLES 1, 2 AND 3 SCORCHED IN THE IGNITER FLAME IMPINGEMENT AREA;  
CONSEQUENTLY, THE POSTTEST

PHOTOGRAPH DOES NOT APPEAR TO AGREE WITH THE RECORDED BURN

LENGTHS.

01 UPW W24803-A A THE BACK SIDE OF SAMPLE 1 BURNED DIFFERENTLY FROM THE FRONT SIDE. THE  
BACK SIDE OF SAMPLE 1 BURNED

4.1 CM

(1.6").

## FLASH/FIRE

## DATA

	CUR	PCT	PRESS	SUBSTR	FLASH	FLASH	FIRE
FIRE							
TEST NR	NR	OXY	psia	THK in	SUBSTRATE	MATERIAL	RTG POINT RTG
POINT							
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W14230-C		25.9	14.30				
1000					A		1000 A

## MECHANICAL IMPACT

## DATA

	CUR	PRESS	TEMP	THICK	ENERGY		NR	NR
SUBSTR								
NHB TEST NR	NR R	psia	f	inch	ft-lbs	FLUID1	PCT1	FLUID2
SUBSTR MAT BATCH/LOT	NR						PCT2	REA
								TST
								THK in
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13A W18157-A B 14.7 -297 .2500 72.0 LOX 100 NONE 0  
20

TOXICITY  
DATA

		CHAMBER			SHUTTLE S			ISSA			RUSSIAN	
	CUR	SMP	WGT	VOLUME	SHUTTLE	ML	WGT	S	ISSA	ML	WGT	R
TEST NR	NR	grams	liters	R	ZT100	lbs	R		ZT100	lbs	R	ZT100
M104383-C		19.95	4.23	K	.0065	7679.56	K		.0036	13937.1	K	.0006
90777.1												
MEH32(88-0529)		6.5	4.23	K	.1098	455.357	K		.0605	826.394	K	.4751
105.234												
W29095-A		10.74	4.3	K	.2249	222.358	K		.1239	403.541	H	.8397
59.5458												
W23782-B		7.758	4.3	K	.2827	176.843	K		.1558	320.939	A	1.2415
40.2752												
MEH32(90-0258)		4.1	4.23	K	.3243	154.166	K		.1787	279.784	A	3.0255
16.5261												
MEH32(91-0320)		33.4	4.23	H	.8573	58.3251	K		.4724	105.85	A	1.1646
42.9325												
W14230-E		4.01	2	H	.8622	57.9932	K		.4751	105.247	H	.9279
53.883												
W14829-B		7.709	4.3	A	2.8312	17.6603	A		1.56	32.0504	K	.0162
3086.42												
W30725-A		21.75	4.3	X	869.925	.057476	X		479.344	.104309	X	
206.204 .242478												
W30725-B		21.14	4.3	X	2849.64	.017546	X		1570.2	.031843	X	
383.064 .130527												

TEST NR T DESCRIPTION/  
REMARK

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W14829-B R UN-  
8

W23782-B R MEETS SURFACE AREA REQUIREMENTS FOR  
NHB8060.1C

W29095-A R MEETS SURFACE AREA REQUIREMENTS FOR  
NHB8060.1C

ODOR DATA - NHB TEST  
6

	CUR	SMP	WGT	PCT	PRESS	TEMP			
SUBSTR	NR	R	grams	OXY	psia	f	ODOR	THK	in
TEST NR	NR	R	grams	OXY	psia	f	ODOR	THK	in
MTRL									
W14230-D	A		4.01	25.9	12.3				
120 .6									

THERMAL VACUUM STABILITY DATA - NHB TEST  
TVS

	CUR	TEMP	TIME	RML	TML			
SUBSTR	NR	R	PRESS torr	C	hr	TML	CVCN	WVR
TEST NR	NR	R	PRESS torr	C	hr	TML	CVCN	WVR

## SUBSTRATE MATERIAL

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E361-D		C	1.0E-06	125	24	2.05	0.01	0.47	
1.58									
G16601		A	1.0E-06	125	24	0.55	0.02	0.00	
0.55									
MEH12(90-0020)		A	1.0E-06	125	24	0.34	0.07	0.00	
0.34									
B104383-A		C	1.0E-6	125	24	1.09			
0.45									
W14829-C		A	1.4E-06	125	24	0.76	0.00	0.53	
0.23									
W23782-C		A	5.0E-06	125	24	0.53	0.00	0.11	
0.42									
W14230-F		A	5.4E-06	125	24	0.43	0.00	0.25	
0.19									

TEST NR            T DESCRIPTION/  
REMARK

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B104383-A	R NO TEST REPORT
AVAILABLE	
W14829-C	R UN-
8	